Utfordring-3.R

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```
#3.1.1
```

```
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.2 --
## v ggplot2 3.3.6      v purrr   0.3.4
## v tibble  3.1.6      v dplyr   1.0.10
## v tidyr   1.1.4      v stringr 1.4.0
## v readr   2.1.2      v forcats 0.5.1
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(janitor)
```

```
##
## Attaching package: 'janitor'
##
## The following objects are masked from 'package:stats':
##
##     chisq.test, fisher.test
```

```
library(lubridate)
```

```
##
## Attaching package: 'lubridate'
##
## The following objects are masked from 'package:base':
##
##     date, intersect, setdiff, union
```

```
library(snakecase)
library(httr)
library(rjstat)
```

```
##
## Attaching package: 'rjstat'
##
## The following object is masked from 'package:dplyr':
##
##     id
```

```r
url <- "https://data.ssb.no/api/v0/no/table/11155/"

# spørring fra konsoll - kan være på en linje
data <- '
{
  "query": [
    {
      "code": "Kjonn",
      "selection": {
        "filter": "item",
        "values": [
          "0"
        ]
      }
    },
    {
      "code": "Alder",
      "selection": {
        "filter": "item",
        "values": [
          "20-64",
          "15-24"
        ]
      }
    },
    {
      "code": "UtdNivaa",
      "selection": {
        "filter": "item",
        "values": [
          "TOT"
        ]
      }
    },
    {
      "code": "ContentsCode",
      "selection": {
        "filter": "item",
        "values": [
          "ArbLedigProsent"
        ]
      }
    },
    {
      "code": "Tid",
      "selection": {
        "filter": "item",
        "values": [
          "2020"
        ]
      }
    }
  ],
```

```
  "response": {
    "format": "json-stat2"
  }
}
'

d.tmp <- POST(url , body = data, encode = "json", verbose())
```

```
# Henter ut innholdet fra d.tmp som tekst deretter bearbeides av fromJSONstat
tabell <- fromJSONstat(content(d.tmp, "text"))

tabell %>%
  ggplot(aes(alder, value)) + geom_col() + theme_bw() +
  labs(x = "Aldersgrupper", y = "Arbeidsledighet i prosent (%)",
       title = "Arbeidsledighet mellom to aldersgrupper :\  2020 ")
```

Arbeidsledighet mellom to aldersgrupper : 2020
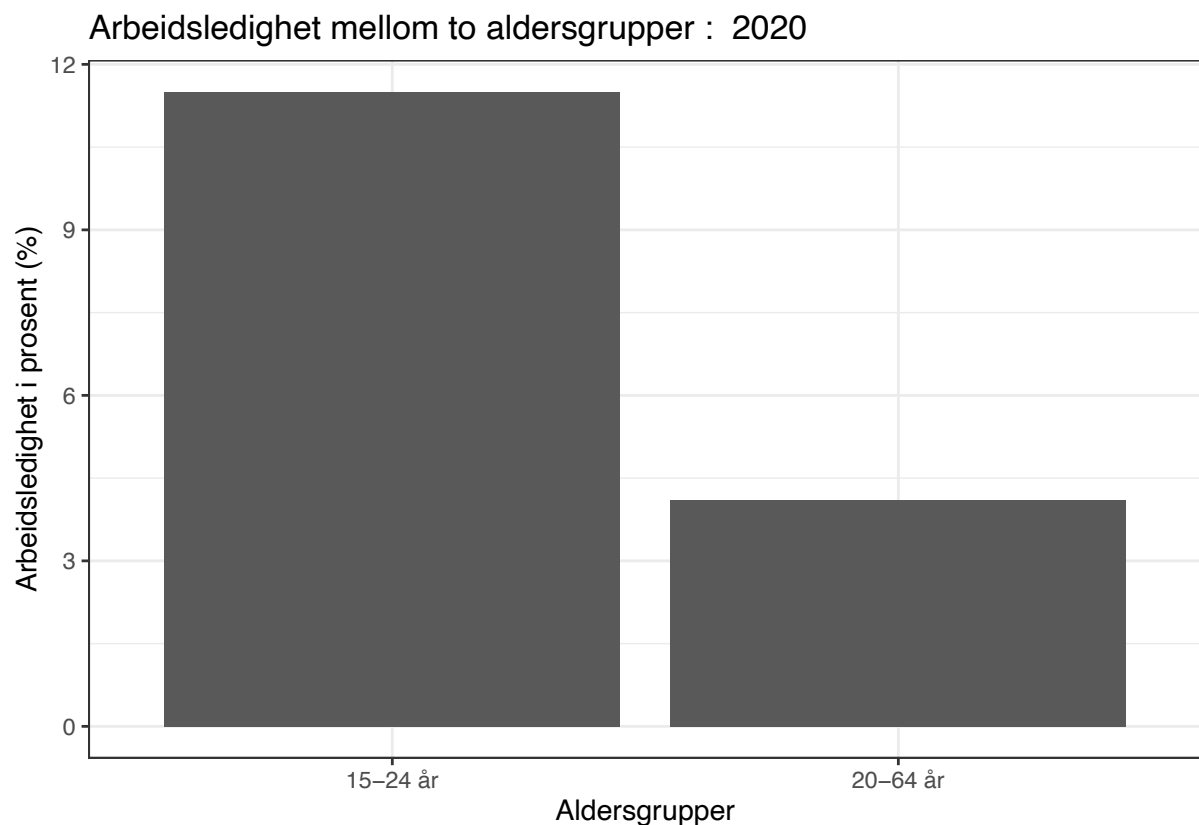

```
#3.1.2:
# We will use the following packages for the assignment:

library(OECD)      #The OECD package
library(ggplot2)      # the ggplot package
library(tidyverse)   # the tidyverse package
library(dplyr)   # The DPLYR package
library(ggrepel) # The ggrepel package
```

```r
#We want to create a graph that shows the correlation between minimum wages and unemployment. We need t
#Search data set for minimum wages and unemployment statistics
dsets<-get_datasets()
search_dataset("wage",dsets)
```

```
## # A tibble: 10 x 2
##    id               title
##    <chr>            <chr>
##  1 MIN2AVE          Minimum relative to average wages of full-time workers
##  2 MW_CURP          Minimum wages at current prices in NCU
##  3 AV_AN_WAGE       Average annual wages
##  4 AWCOMP           Taxing Wages - Comparative tables
##  5 AEO2012_CH6_FIG3 Figure 3: Time Use by Country Income Level: In middle inco~
##  6 AEO2012_CH6_FIG31 Figure 31: Probability of being waged employed by educatio~
##  7 RMW              Real minimum wages
##  8 TABLE_I6         Table I.6. All-in average personal income tax rates at ave~
##  9 AGE_GAP          Wage gap by age
## 10 IMW              Incomes of minimum wage earners
```

```r
search_dataset("unemployment",dsets)
```

```
## # A tibble: 12 x 2
##    id                 title
##    <chr>              <chr>
##  1 DUR_I              Incidence of unemployment by duration
##  2 DUR_D              Unemployment by duration
##  3 AVD_DUR            Average duration of unemployment
##  4 AEO2012_CH6_FIG4   Figure 4: Youth and adult unemployment
##  5 AEO2012_CH6_FIG29  Figure 29: Youth employment and unemployment by educati~
##  6 AEO2012_CH6_FIG19  Figure 19: The trade off between vulnerable employment ~
##  7 EAG_NEAC_DURUNE    Distribution of unemployed adults by duration of unempl~
##  8 PTRUB              PTR for families claiming Unemployment Benefits
##  9 MIG_NUP_RATES_GENDER Employment, unemployment, and participation rates by pl~
## 10 NRR                Net replacement rate in unemployment
## 11 PTRCCUB            PTR for parents claiming Unemployment Benefits and usin~
## 12 EAG_TRANS_DURUNEMP Percentage of young adults not in education and unemplo~
```

```r
#Data on minimum wages is available in "MIN2AVE"
#Data on unemployment is available in "MIG_NUP_RATES_GENDER"

#MinWage
minwage <- get_dataset("MIN2AVE",
                       filter = "USA+CAN+FRA+GBR+DEU+NZL",
                       pre_formatted = TRUE)
#Selecting years and the min wage as a share of median wage
minwage2019 <- subset(minwage, Time < 2019 & Time >2007 & SERIES=="MEDIAN")
minwage2007_2019 <- subset(minwage2019, Time>2007)

#UnEmpl
unempl <- get_dataset("MIG_NUP_RATES_GENDER",
                      filter = "USA+CAN+FRA+GBR+DEU+NZL",
                      pre_formatted = TRUE)
```

```r
#Selecting years, the unemployment rate of people born in the country, and both sexes
unempl2019 <- subset(unempl, Time<2019 & RATE=="U_RATE" & BIRTH=="NB" & GENDER=="TOT")
unempl2007_2019 <- subset(unempl2019, Time>2007)

#Combining datasets - we need to merge by both country and year to get the right number in the right pl
minwage_unempl <-left_join(minwage2007_2019, unempl2007_2019, by=c("COUNTRY","Time"))

#removing countries with missing data
complete_minwage_unempl <- na.omit(minwage_unempl)

#transforming the minimum wage and uneployment rate to numeric variables
complete_minwage_unempl$MinWage_0 <-as.numeric(complete_minwage_unempl$ObsValue.x) #MinWage is between 
complete_minwage_unempl$UnEmpl <-as.numeric(complete_minwage_unempl$ObsValue.y)

#Transforming Minimum wage to percent
complete_minwage_unempl$MinWage <- complete_minwage_unempl$MinWage_0 * 100


minwage_plot1 <-
  ggplot(data=complete_minwage_unempl,aes(x=MinWage, y=UnEmpl, group=COUNTRY, color=COUNTRY)) +
  geom_line(aes(group=COUNTRY), size=1) +
  geom_point(size=2.5) +
  labs(y = "Arbeidsledighet i %" , x ="Minstelønn i (%) av medianlønn")  +
  theme(legend.position="left") + theme_bw() +
  geom_label_repel(data=complete_minwage_unempl
                  %>% group_by(COUNTRY) %>%
                    filter(MinWage==min(MinWage)),
                  aes(MinWage, UnEmpl, fill = factor(COUNTRY),
                      label = sprintf('%s', COUNTRY)), color = "black",fill = "white")

minwage_plot1
```